UNDERGRADUATE COUNCIL
Request for Change(s)

Originating unit requesting change: SGEE

Type of Change requested:
- [ ] Course number(s)
- [ ] Course title
- [ ] Course description
- [ ] Course prerequisite(s)
- [ ] Drop course(s)
- [ ] Drop program(s)
- [ ] Program title
- [ ] Program description
- [ ] Program requirements

Semester and year change(s) take effect: Fall 2017

Appropriate computer abbreviation if course title is more than 30 spaces:

Briefly summarize the change requested:

1. Allow up to 6 hours of associated requirements to come from outside CSE. ENSC has identified up to 6 courses from outside the college with relevant content to the degree. The list of proposed course is attached.

Catalog copy

Present catalog copy (paste-up from catalog is acceptable).

Proposed change(s). (Include exact catalog copy as desired. Underline changes)

Environmental Sciences BS
Requirements

The program of study requires a minimum of 67 hours, on a 126-hour degree, consisting of:

Environmental Science Core (31-32 semester hours)

| BIOL 10003 | Contemporary Issues in Biology |
| OR |
| BIOL 10503 | Introductory Biology I |
| AND |
| BIOL 10501 | Introductory Biology Lab I |
| BIOL 30403 | Ecology and the Environment |
| GEOL 10113 | Understanding the Earth |
| ENSC 10143 | Contemporary Environmental Issues |
| ENSC 30133 | Concepts in Environmental Science |
| ENSC 40001 | Scientific Presentations |

Choose 1 (3hrs) From ENV LEADERSHIP GROUP:

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<tbody>
<tr>
<td>ENSC 40193</td>
<td>Environmental Stewardship Seminar</td>
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<tr>
<td>ENSC 50793</td>
<td>Environmental Sustainability</td>
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</tr>
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</table>

Choose 1 (3hrs) From LAND SURFACE GROUP:
- GEOL 40493 Geomorphology
- GEOL 40393 Soils in the Environment

Choose 1 (3hrs) From WATER GROUP:
- ENSC 50403 Rivers in the Landscape
- GEOL 50493 Physical Hydrology
- ENSC 50723 Water and Wastewater Technology

Choose 1 (3hrs) From COMPLIANCE GROUP:
- ENSC 50693 Natural Resources Compliance
- ENSC 50703 Environmental Compliance

Choose 1 (3hrs) From FIELD RESEARCH GROUP:
- ENSC 30403 Field Methods
- ENSC 30453 Wildlife Research Project
- ENSC 50613 Chemical Analysis of Environmental System

Associated Requirements (36-37 semester hours)
- CHEM 10113 General Chemistry I
- CHEM 10123 General Chemistry II
- CHEM 10122 General Chemistry II Laboratory
- PHYS 10154 General Physics I with Laboratory
- MATH 10043 Elementary Statistics
- MATH 10524 Calculus I
- MATH 10283 Applied Calculus

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<tr>
<td>CHEM 10113</td>
<td>General Chemistry I</td>
<td>CHEM 10113</td>
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<tr>
<td>CHEM 10123</td>
<td>General Chemistry II</td>
<td>CHEM 10123</td>
<td>General Chemistry II</td>
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<tr>
<td>CHEM 10122</td>
<td>General Chemistry II Laboratory</td>
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<tr>
<td>PHYS 10154</td>
<td>General Physics I with Laboratory</td>
<td>PHYS 10154</td>
<td>General Physics I with Laboratory</td>
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<tr>
<td>MATH 10043</td>
<td>Elementary Statistics</td>
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<td>Calculus I</td>
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18 additional hours of science, engineering, math or computer science electives with regard to the interest of the student as approved by the adviser.

18 additional semester hours of electives selected with regard to the interest of the student as approved by the adviser with no more than 6 hours outside the College of Science and Engineering.
1. What is the justification for the change(s) requested? Because the degree calls for 67 hours of science courses, accepting up to 6 hours of environmentally-related courses outside the college is appropriate.

2. If applicable, explain how the change(s) will affect the current program outcomes and assessment mechanisms. These changes are not anticipated to affect the program outcomes or assessment mechanisms. ENSC faculty have identified specific courses that would be approved under a program of study and have received emails of support from the professors that offer these courses (attached).

3. Faculty Resources: How will the unit provide faculty support for this change and any other impact this change may have on other current departmental listings. No additional faculty support is required for these changes.

4. Educational Resources: Will this change require additional resources not currently available (e.g. space, equipment, library, other)?
   If yes, list additional resources needed. N/A
   YES □ NO □

5. If this change affects other units of the University, include a statement signed by the chairperson(s) of the affected unit(s). Emails with support from the affected faculty are attached.

6. If cross-listed, provide evidence of approval by all curriculum committees appropriate to both the originating and cross-listed units. N/A

   Approval signature of chairperson of originating unit

Revised 09/04
Initial list of courses that ENSC would accept for associated requirements. Note that ENSC enrollment in these courses would be at the professor’s discretion.

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ECON 30523</td>
<td>Resource and Energy Economics</td>
<td>Weiwei Liu</td>
</tr>
<tr>
<td>ECON 30543</td>
<td>Environmental Economics and Policy</td>
<td>Weiwei Liu</td>
</tr>
</tbody>
</table>

ENSC would accept only 1 course from ECON, but students could choose between the two listed courses.

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<tr>
<td>GEOG 30703</td>
<td>Environment and Society</td>
<td>Ashley Coles</td>
</tr>
</tbody>
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<tr>
<td>SOCI 30223</td>
<td>Energy Across the Disciplines</td>
<td>Michele Edwards</td>
</tr>
<tr>
<td>SOCI 30253</td>
<td>Environmental Sociology</td>
<td>Michele Edwards</td>
</tr>
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<tbody>
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<td>RAMA 20103</td>
<td>Challenges of Global Food Production</td>
<td>Jeff Geider</td>
</tr>
</tbody>
</table>
Hi Becky,

Thanks for asking. I fully support this proposal. You may get an email from my department chair Rob Garnett as well showing his support on this.

Best

Weiwe Liu
Assistant Professor
Department of Economics
AddRan College of Liberal Arts
Texas Christian University

Good afternoon. I wanted to reach out to you because the ENSC faculty is considering a small change to our degree program. Because we have 67 hours of science requirements in the degree, we would like to offer our students a chance to take your course (from outside the college of science and engineering) and allow it to count toward their associated requirement electives. The course(s) are shown below:

1. ECON 30523 Resource and Energy Economics
2. ECON 30543 Environmental Economics and Policy

You have already provided us your support for students taking these classes as a part of the new Sustainability Minor through the Institute of Environmental Studies. We are now hoping that you would support students enrolling in your course(s) as part of the ENSC degree (separate from the Sustainability Minor). Many of the students pursuing a Sustainability Minor are currently ENSC students, so we don’t anticipate an added impact to your course enrollments if you support this request. However, we cannot safely assume that there will be no additional impact.

We are requesting your input, and if possible, an email in support of allowing our ENSC students to enroll in your course(s) by Wed Mar 1 at noon. A reply to this email showing your support will suffice. My apologies for the short notice.

Becky L. Johnson, P.G.
Dear Becky,

After speaking to Dr. Liu, I am happy to report that the Economics Department would be happy to have her courses (ECON 30523 and ECON 30543) included among the associated requirement options for the ENSC degree.

Thank you for this opportunity.

Best wishes,

Rob

Dr. Rob Garnett
Professor and Chair
Department of Economics
Texas Christian University / Box 298510
Fort Worth, TX 76129
817-257-7990
Hi Becky,

Thank you for your email and for considering this course as an option for ENSC students. I have discussed it with the chair and other faculty in Geography, and we agree that it is fine with us if ENSC students take Environment and Society to meet degree elective requirements.

One issue that might come up is that the current course number (30703) is a temporary placeholder until the course becomes part of the regular curriculum. The next time the course is offered, assuming it is approved by the curriculum committee, it will be listed as GEOG 30773.

Please let me know if you have any questions. Thanks again.

Best,
Ashley

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1. GEOG 30703    Environment and Society

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Becky L. Johnson, P.G.
This document contains two emails between Michelle Edwards and Becky Johnson, discussing the possibility of allowing ENSC students to enroll in Michelle's courses (SOCI 30223 – Energy Across the Disciplines & SOCI 30253 – Envi. Sociology) as electives. Michelle requests input on this matter, and Becky responds, acknowledging the support and expressing her availability to discuss further at a later date.
Hi Becky,
Our RAMA 20103 has limited space (up to 30 students) but we certainly support the enrolment of ENSC students in this course.

Jeff

From: Johnson, Becky
Sent: Tuesday, February 28, 2017 1:42 PM
To: Geider, Jeffrey <j.geider@tcu.edu>
Subject: Accepting your course as an elective for ENSC
Importance: High

Good afternoon. I wanted to reach out to you because the ENSC faculty is considering a small change to our degree program. Because we have 67 hours of science requirements in the degree, we would like to offer our students a chance to take your course (from outside the college of science and engineering) and allow it to count toward their associated requirement electives. The course(s) are shown below:

1. RAMA 20103 Challenges of Global Food Production

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